

## **IMPROVEMENTS TO MANUALLY HELD DENTAL FLOSSERS**

### **ABSTRACT**

A dental flossing device is characterized by a flossing circuit comprised of a flossing supply spool and a take-up spool mounted to a housing. The floss feeds from the supply spool along a pair of prongs forming a fork extension of the handle and is stretched across the prongs and appropriately tensioned to be inserted into a user's mouth for flossing. To maintain tension, a pair of ratchet pawls are jointly engageable with a ratchet mounted for co-rotation with the take-up spool. The pawls are offset relative to the ratchet teeth to ensure appropriate tension. Tension on the supply spool side of the flosser is achieved with a tension arm in constant engagement with tension teeth co-rotatably mounted with the spool. When a floss advancing trigger is not depressed, a brake pawl formed at one end of the trigger is spring biased into locking engagement with these teeth while the tension arm assures proper tension on the supply side. In an alternative preferred embodiment, only one tensioning ratchet pawl engages the ratchet mounted for co-rotation with the take-up spool. A different ratchet pawl, mounted to one end of a ratchet arm pivotally secured to the flosser housing beneath the ratchet, is engaged by the trigger to drivingly contact the ratchet to rotate the take-up spool. In this latter embodiment, the brake pawl is replaced with a projection formed on the trigger that is adapted to engage the supply spool tensioning ratchet to lock the ratchet in the released position of the trigger to prevent supply spool rotation and maintain the floss circuit in a tight condition.